

check of the ISMLS facility periodically in accordance with procedures approved by the FAA at the time of commissioning, and must report the results of the checks as provided in § 171.275.

(e) Modifications to an ISMLS facility may be made only after approval by the FAA of the proposed modification submitted by the owner.

(f) The owner or the owner's maintenance representative must participate in inspections made by the FAA.

(g) Whenever it is required by the FAA, the owner must incorporate improvements in ISMLS maintenance.

(h) The owner or his maintenance representative must provide a sufficient stock of spare parts, including solid state components, or modules to make possible the prompt replacement of components or modules that fail or deteriorate in service.

(i) FAA approved test instruments must be used for maintenance of the ISMLS facility.

(j) The mean corrective maintenance time of the ISMLS equipment may not exceed 0.5 hours, with a maximum corrective maintenance time of not greater than 1.5 hours. This measure applies to failures of the monitor, transmitter and associated antenna assemblies, limited to unscheduled outage and out-of-tolerance conditions.

(k) The mean time between failures of the ISMLS equipment may not be less than 1,500 hours. This measure applies to unscheduled outages, out-of-tolerance conditions, and failures of the monitor, transmitter, and associated antenna assemblies.

(l) Inspection consists of an examination of the ISMLS equipment to ensure that unsafe operating conditions do not exist.

(m) Monitoring of the ISMLS radiated signal must ensure a high degree of integrity and minimize the requirements for ground and flight inspection. The monitor must be checked periodically during the in-service test evaluation period for calibration and stability. These tests and ground checks of glide slope, localizer, and marker beacon radiation characteristics must be conducted in accordance with the maintenance requirements of this section.

#### § 171.275 Reports.

The owner of the ISMLS facility or his maintenance representative must make the following reports at the indicated time to the appropriate FAA Regional Office where the facility is located.

(a) *Facility Equipment Performance and Adjustment Data (FAA Form 198)*. The FAA Form 198 shall be filled out by the owner or his maintenance representative with the equipment adjustments and meter readings as of the time of facility commissioning. One copy must be kept in the permanent records of the facility and two copies must be sent to the appropriate FAA Regional Office. The owner or his maintenance representative must revise the FAA Form 198 data after any major repair, modernization, or retuning to reflect an accurate record of facility operation and adjustment. In the event the data are revised, the owner or his maintenance representative shall notify the appropriate FAA Regional Office of such revisions, and forward copies of the revisions to the appropriate FAA Regional Office.

(b) *Facility Maintenance Log (FAA Form 6030-1)*. FAA Form 6030-1 is a permanent record of all the activities required to maintain the ISMLS facility. The entries must include all malfunctions met in maintaining the facility including information on the kind of work and adjustments made, equipment failures, causes (if determined) and corrective action taken. In addition, the entries must include completion of periodic maintenance required to maintain the facility. The owner or his maintenance representative must keep the original of each form at the facility and send a copy to the appropriate FAA Regional Office at the end of each month in which it is prepared. However, where an FAA approved remote monitoring system is installed which precludes the need for periodic maintenance visits to the facility, monthly reports from the remote monitoring system control point must be forwarded to the appropriate FAA Regional Office, and a hard copy retained at the control point.

(c) *Technical Performance Record (FAA Form 418)*. FAA Form 418 contains a record of system parameters, recorded

on each scheduled visit to the facility. The owner or his maintenance representative shall keep the original of each month's record at the facility and send a copy of the form to the appropriate FAA Regional Office.

### Subpart J—Microwave Landing System (MLS)

SOURCE: Docket No. 20669, 51 FR 33177, Sept. 18, 1986, unless otherwise noted.

#### § 171.301 Scope.

This subpart sets forth minimum requirements for the approval, installation, operation and maintenance of non-Federal Microwave Landing System (MLS) facilities that provide the basis for instrument flight rules (IFR) and air traffic control procedures.

#### § 171.303 Definitions.

As used in this subpart:

*Auxiliary data* means data transmitted in addition to basic data that provide ground equipment siting information for use in refining airborne position calculations and other supplementary information.

*Basic data* means data transmitted by the ground equipment that are associated directly with the operation of the landing guidance system.

*Beam center* means the midpoint between the -3 dB points on the leading and trailing edges of the scanning beam main lobe.

*Beamwidth* means the width of the scanning beam main lobe measured at the -3 dB points and defined in angular units on the boresight, in the horizontal plane for the azimuth function and in the vertical plane for the elevation function.

*Clearance guidance sector* means the volume of airspace, inside the coverage sector, within which the azimuth guidance information provided is not proportional to the angular displacement of the aircraft, but is a constant fly-left or fly-right indication of the direction relative to the approach course the aircraft should proceed in order to enter the proportional guidance sector.

*Control Motion Noise (CMN)* means those fluctuations in the guidance which affect aircraft attitude, control surface motion, column motion, and

wheel motion. Control motion noise is evaluated by filtering the flight error record with a band-pass filter which has corner frequencies at 0.3 radian/sec and 10 radians/sec for azimuth data and 0.5 radian/sec and 10 radians/sec for elevation data.

*Data rate* means the average number of times per second that transmissions occur for a given function.

*Differential Phase Shift Keying (DPSK)* means differential phase modulation of the radio frequency carrier with relative phase states of 0 degree or 180 degrees.

*Failure* means the inability of an item to perform within previously specified limits.

*Guard time* means an unused period of time provided in the transmitted signal format to allow for equipment tolerances.

*Integrity* means that quality which relates to the trust which can be placed in the correctness of the information supplied by the facility.

*Mean corrective time* means the average time required to correct an equipment failure over a given period, after a service technician reaches the facility.

*Mean course error* means the mean value of the azimuth error along a specified radial of the azimuth function.

*Mean glide path error* means the mean value of the elevation error along a specified glidepath of the elevation function.

*Mean-time-between-failures (MTBF)* means the average time between equipment failures over a given period.

*Microwave Landing System (MLS)* means the MLS selected by ICAO for international standardization.

*Minimum glidepath* means the lowest angle of descent along the zero degree azimuth that is consistent with published approach procedures and obstacle clearance criteria.

*MLS Approach Reference Datum* is a point at a specified height located vertically above the intersection of the runway centerline and the threshold.

*MLS back azimuth reference datum* means a point 15 meters (50 feet) above the runway centerline at the runway midpoint.